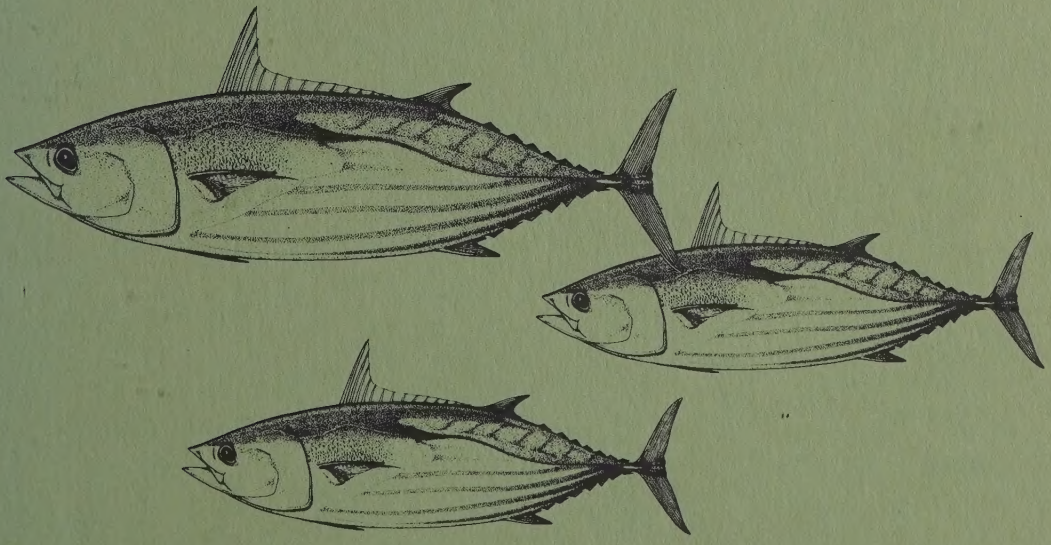
JUNE 1975
No. 6

FISHING INFORMATION

Southwest Fisheries Center-La Jolla, California



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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
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FISHING INFORMATION

JUNE 1975, No. 6

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PREFACE

This publication, Fishing Information, appears monthly and contains 1) fishery advisory information, 2) a narrative description of pertinent surface temperature conditions, 3) charts of winds and pressures for the eastern North Pacific, 4) charts of sea surface temperature for the North Pacific and eastern tropical Pacific, and 5) charts of subsurface temperature structure in the eastern North Pacific.

A supplement to Fishing Information appears at 15-day intervals throughout the year. This is a chart of sea surface temperature (contoured at 2°F (1°C) intervals) from Baja California to Vancouver Island out to about 135°W. Special bulletins are published in conjunction with the 15-day sea surface temperature charts which include short-term projections of albacore distribution and locations of productive fishing areas, information on oceanographic and atmospheric conditions, and other information as is appropriate during the albacore fishing season.

The Secretary of Commerce has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Use of funds for printing this publication approved by the Office of Management and Budget, August 20, 1973; this approval expires June 1976.

Submitted for publication - July 18, 1975

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ENVIRONMENTAL CHARTS ANALYZED BY:

F. Miller (Figures 8 and 9)
J. Renner (Figures 1,2,3,4,5,6,7,10,11 and 15-day Supplement)

TECHNICAL EDITOR:
R. Allen
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Expendable bathythermograph and salinity observations are made by the mates and engineers of the Hawaiian Queen of Matson Navigation Co. The data are processed under supervision of D.R. McLain at the NMFS Pacific Environmental Group, Monterey, using computer facilities of the Fleet Numerical Weather Center. The project is partially supported by the National Science Foundation and the Office of Naval Research under Government NAonr-9-74.

Sea Surface Temperature and Environmental Conditions

N. CLARK AND F. MILLER

Eastern North Pacific

Seasonal warming caused sea surface temperatures to increase over the entire eastern North Pacific during June. The area of greatest warming is centered near 40°N and 147°W where temperatures increased by 3 to 5°F (1.7 to 2.8°C) between May and June. The sea surface temperature anomaly pattern for June is similar to that for May with a large area of 1 to 3°F (0.5 to 1.7°C) above-normal temperatures in the central eastern North Pacific and 2 to 4°F (1.1 to 2.2°C) below-normal temperatures in the Gulf of Alaska, a 500-mile-wide band along the North American coast, and a large region extending westward from the southern and Baja California coasts towards Hawaii. The central region of above-normal temperatures increased slightly during June, while the below-normal region in the Gulf of Alaska became cooler by 1 to 2°F (0.5 to 1.1°C).

Sea level pressures were above-normal by up to 7 mb over the entire eastern North Pacific in June, resulting in a strong eastern North Pacific anticyclone or high pressure cell centered near 40°N and 140°W. A ridge of high pressure extending northeastward from the high cell into western Canada and the Pacific Northwest coupled with a thermal low over the southwest desert areas caused strong north-to-northwesterly along-shore winds which maintained intense upwelling along the U.S. west coast.

Western North Pacific

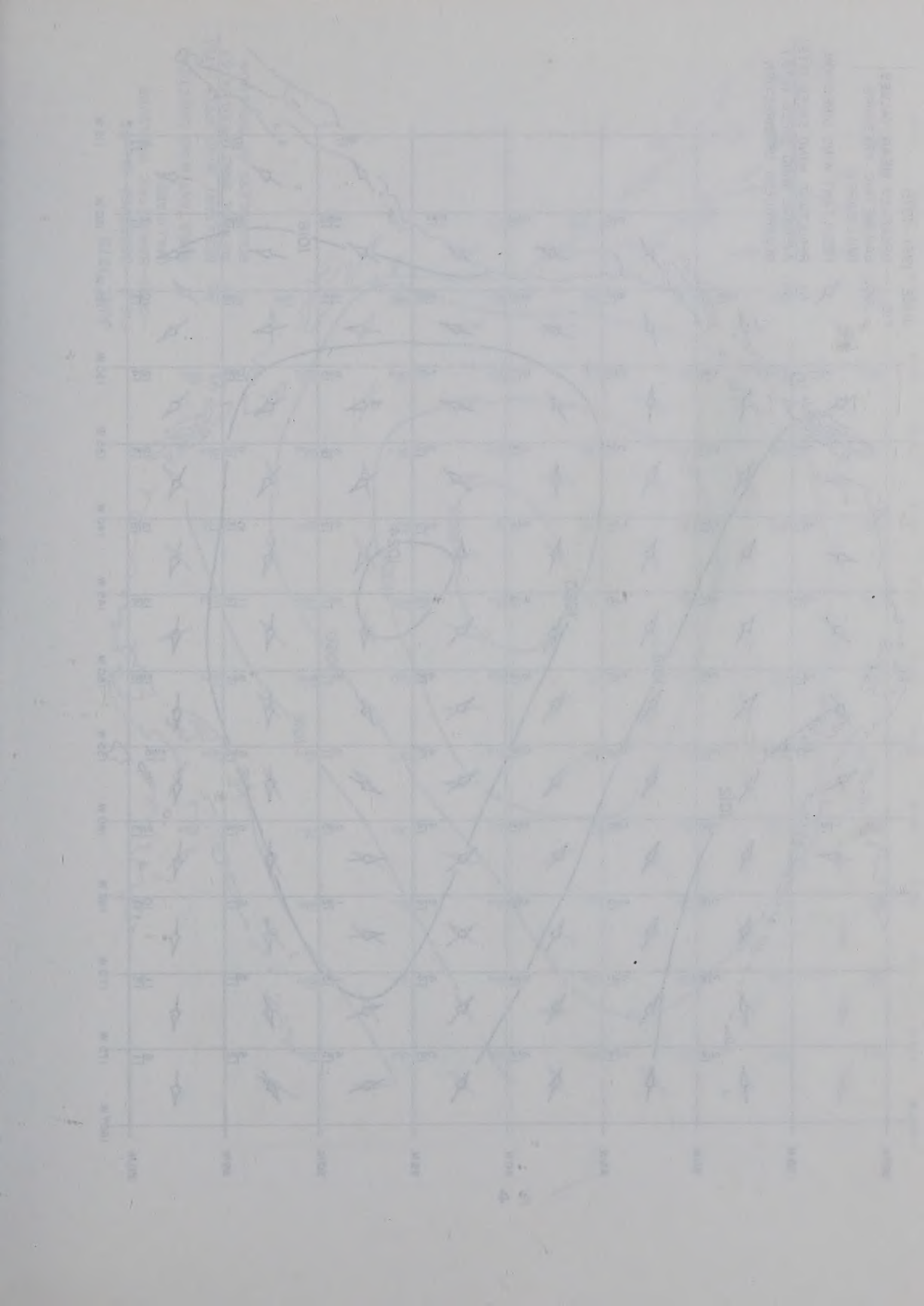
Sea surface temperatures continued to be near normal in the western North Pacific during June with 1 to 3°F (0.5 to 1.7°C) departures from the long-term mean in most areas. Exceptions to this were an area northeast of the Japanese Islands where temperatures were up to 4°F (2.2°C) below the long-term mean for June and an area between 15°N to 25°N and 157°E to 165°E where temperatures were up to 4°F (2.2°C) above the long-term mean. The sea surface temperature anomaly pattern for June also shows a large region of 1 to 3°F (0.5 to 1.7°C) below-normal temperatures in the central Pacific north of 25°N and east of 165°E. A large area southeast of the Japanese Islands warmed considerably during the month, and temperatures that were 2°F (1.1°C) below normal rose to near or slightly above normal values.

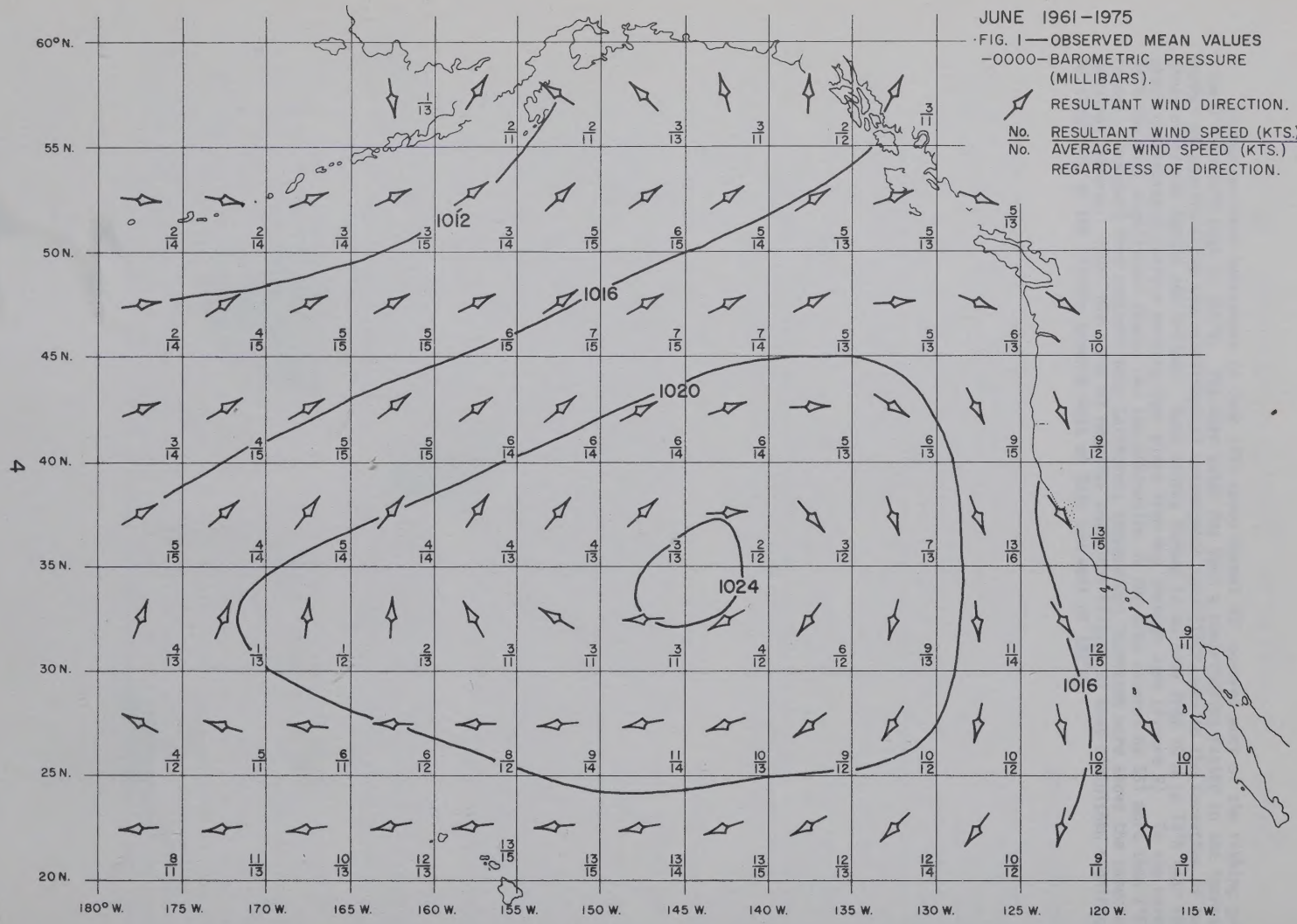
Eastern Tropical Pacific

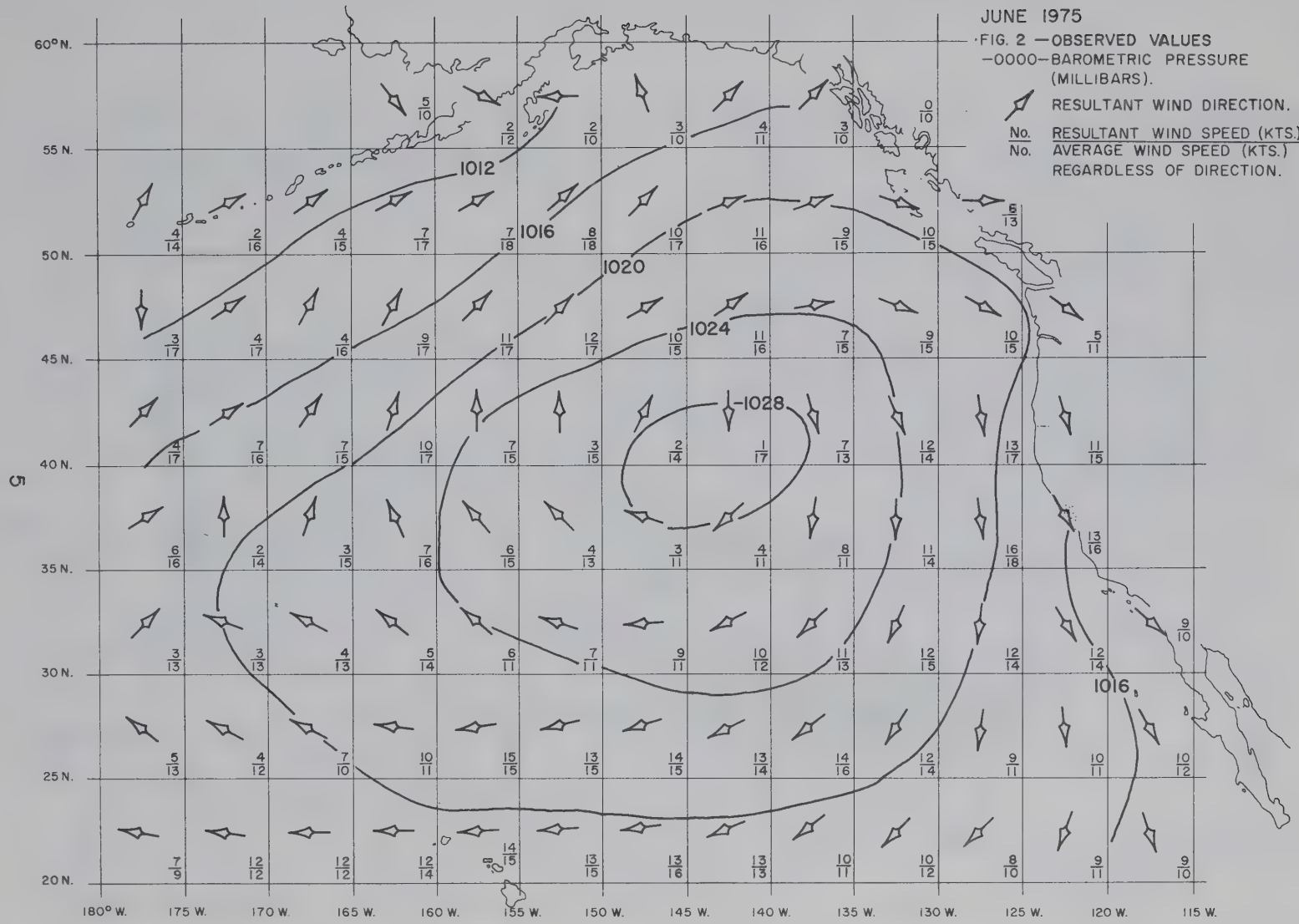
From May to June of each year sea surface temperatures (SST) normally decrease 2 to 4°F (1.1 to 2.2°C) in the Peru Current and the equatorial area out to 120°W. Nearly all the cooling takes place in the southern hemisphere. In the subtropical and tropical areas of the northern hemisphere temperatures can be expected to increase from May to June. Maximum increases of 2 to 4°F usually occur in the "local banks" fishing grounds south and west of Baja California.

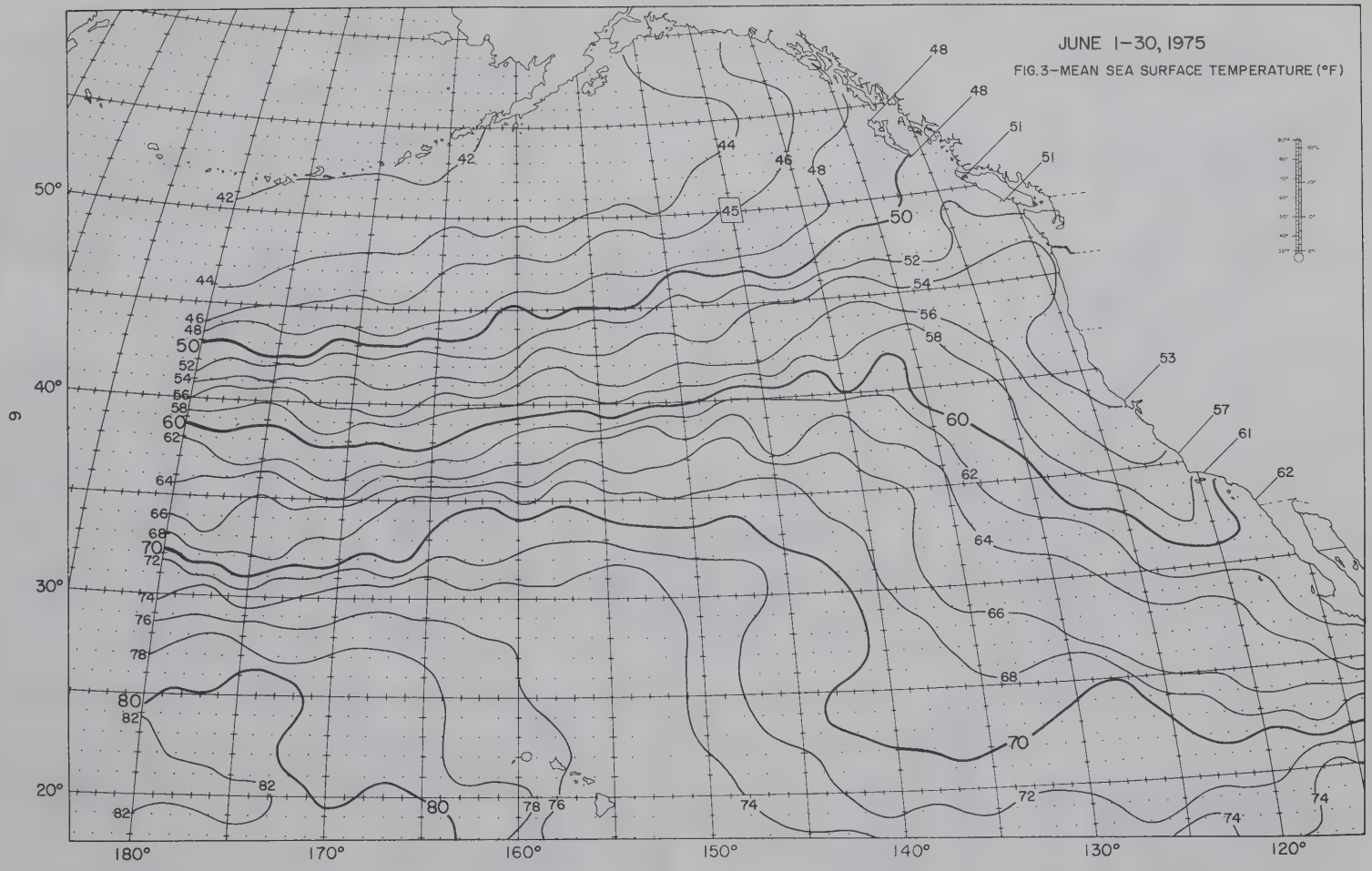
During June 1975 in the southern hemisphere the SST decreased at the seasonal rates in most areas. The SST anomaly patterns in Figure 9 were similar to those in May 1975 except for an expansion of the areas 2°F or more below normal along the equator. The cooling along the equator was apparently associated with increased upwelling and the reestablishment of the equatorial front north of the equator and east 120°W. The equatorial cooling trend became most evident in May 1975. At distances of 100 to 600 miles southwest of Peru, temperatures were cooling at rates less than normal and the positive temperature anomaly covered a larger area in June than in May 1975. The offshore warm water during May and June has been associated with lower surface pressures and lighter southeast offshore winds than normal south of 5°S between 80°W and 85°W. Based on only a few ship reports, the temperatures between 50 and 100 miles from the coast of Peru are slightly below normal. However, coastal station temperatures are not available at this time to confirm this.

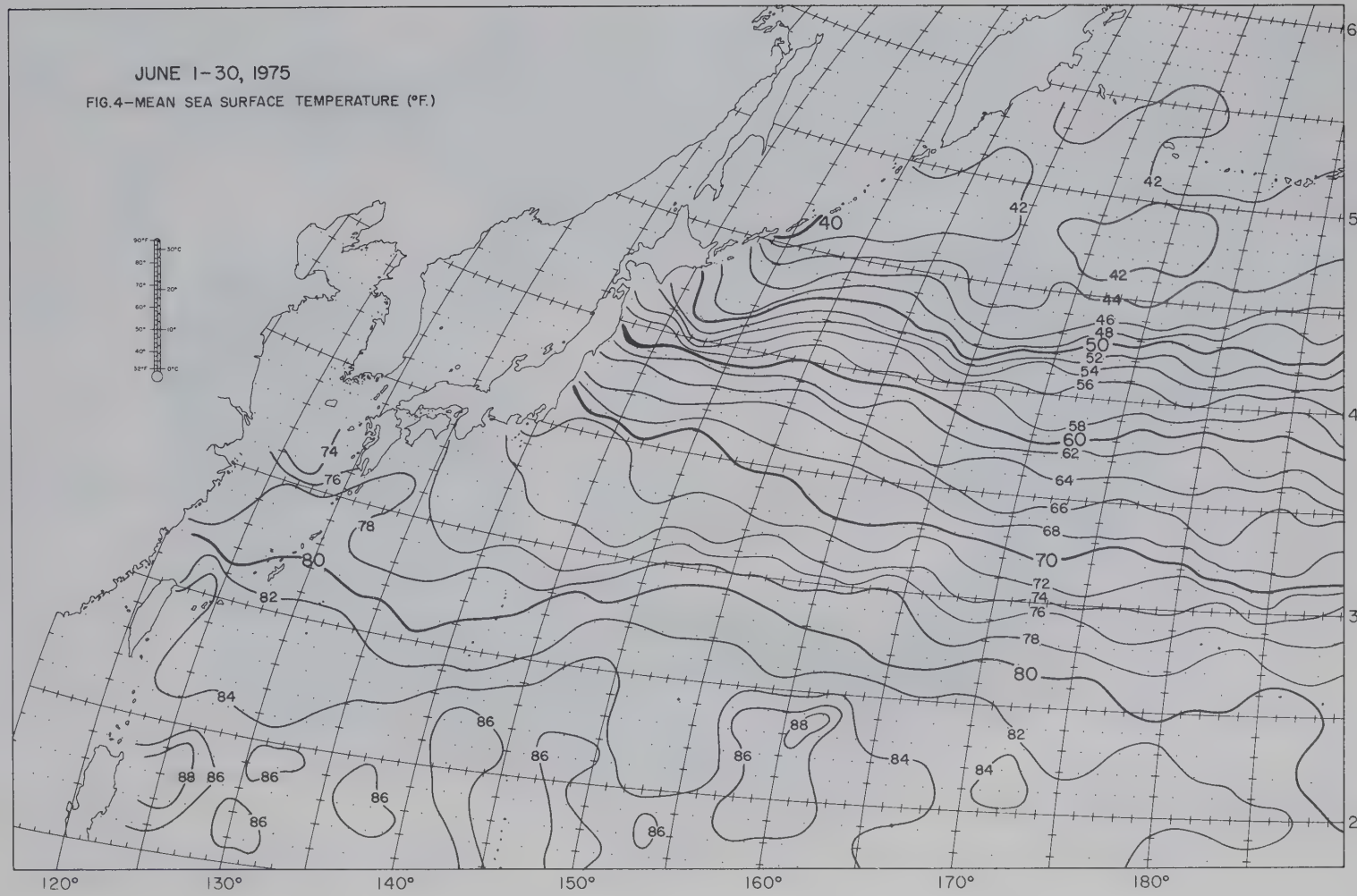
In the northern hemisphere in June 1975 above normal SST covered most of the fishing grounds from 5°N to 15°N east of 110°W. The warm water has been a contributing factor to the increased number of squalls along the intertropical convergence zone (ITCZ) and to the formation of two tropical storms Agatha and Bridget. Both storms formed in an area from 10°N to 13°N near 100°W where considerable surface warming took place from May through June (Figure 9). To the north of 15°N the most significant change was the diminution of the area covered by SST more than 2°F below normal. Westward from southern Baja California temperature increases were above the expected seasonal amounts. Thus, the areas of negative anomalies (Figure 9) have diminished significantly, particularly in the fishing grounds west of Baja and west of 135°W.




JUNE 1961–1975
FIG. 1—OBSERVED MEAN VALUES
—0000—BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.)
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1012
1016
1020
1024
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.


JUNE 1975
FIG. 2 —OBSERVED VALUES
—0000—BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.)
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1012
1016
1020
1024
1028
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.


JUNE 1–30, 1975
FIG.3–MEAN SEA SURFACE TEMPERATURE (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


JUNE 1-30, 1975
FIG.4-MEAN SEA SURFACE TEMPERATURE (°F.)
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°
40
42
44
46
48
50
52
54
56
58
60
62
64
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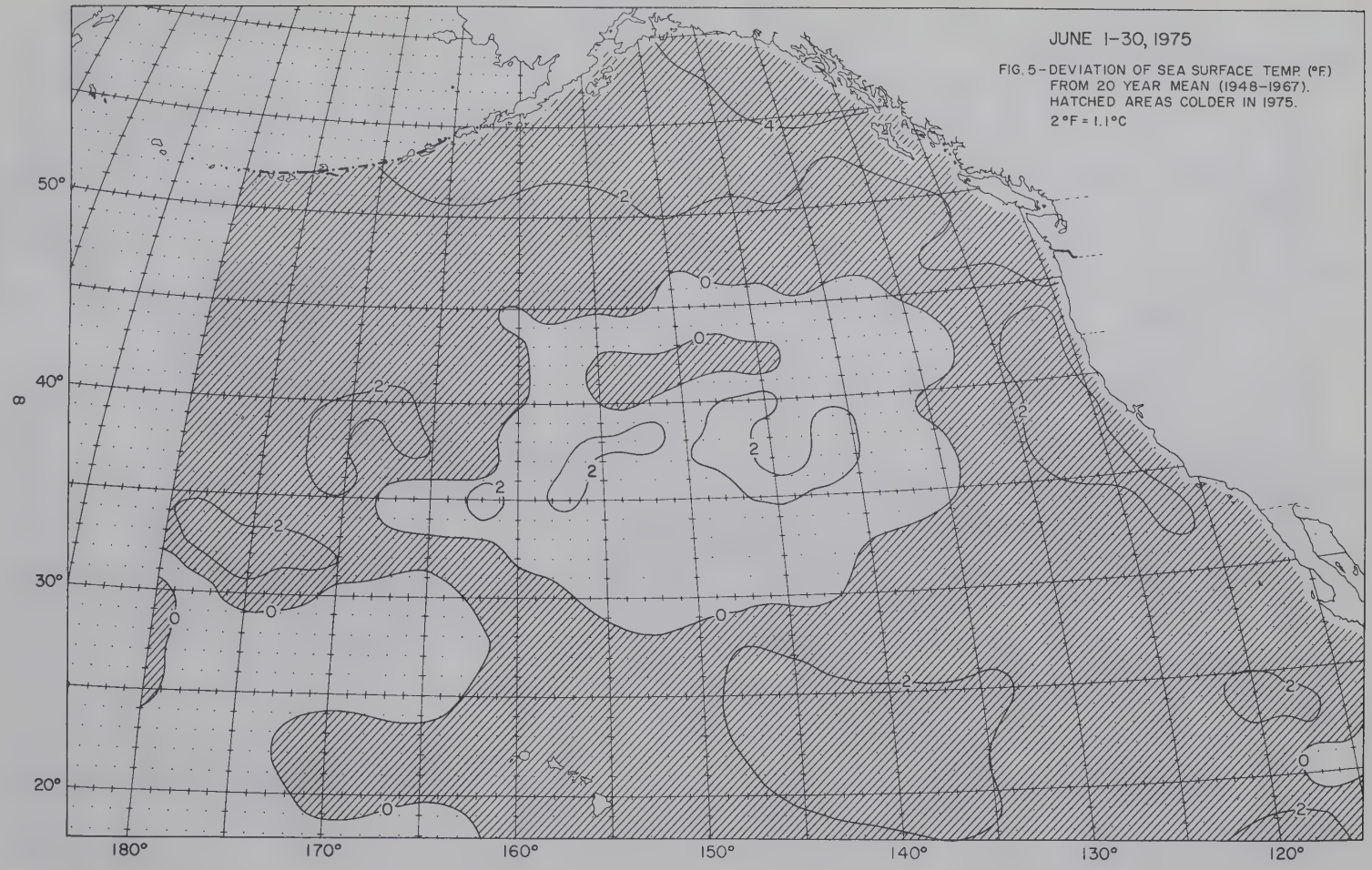
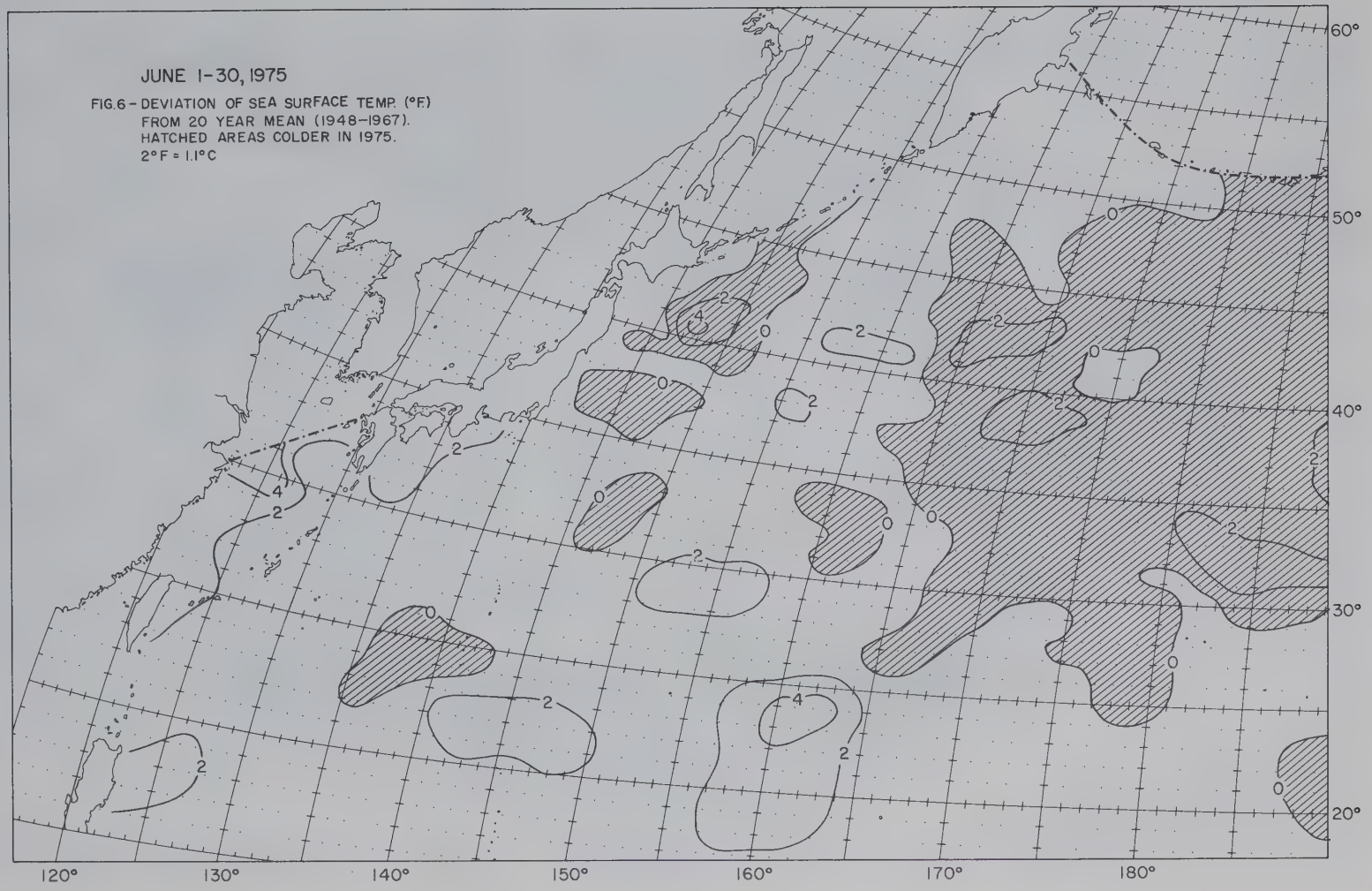
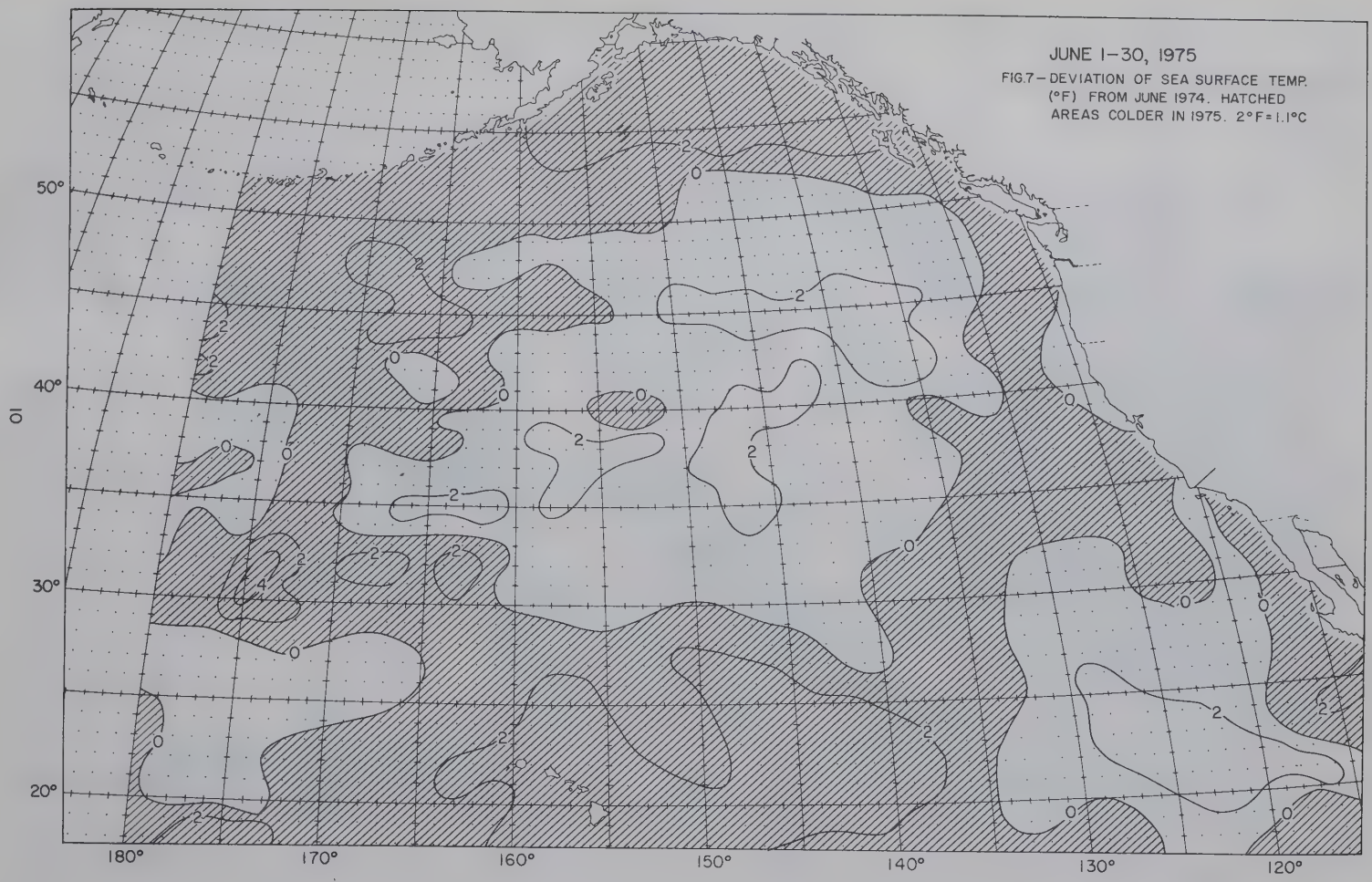
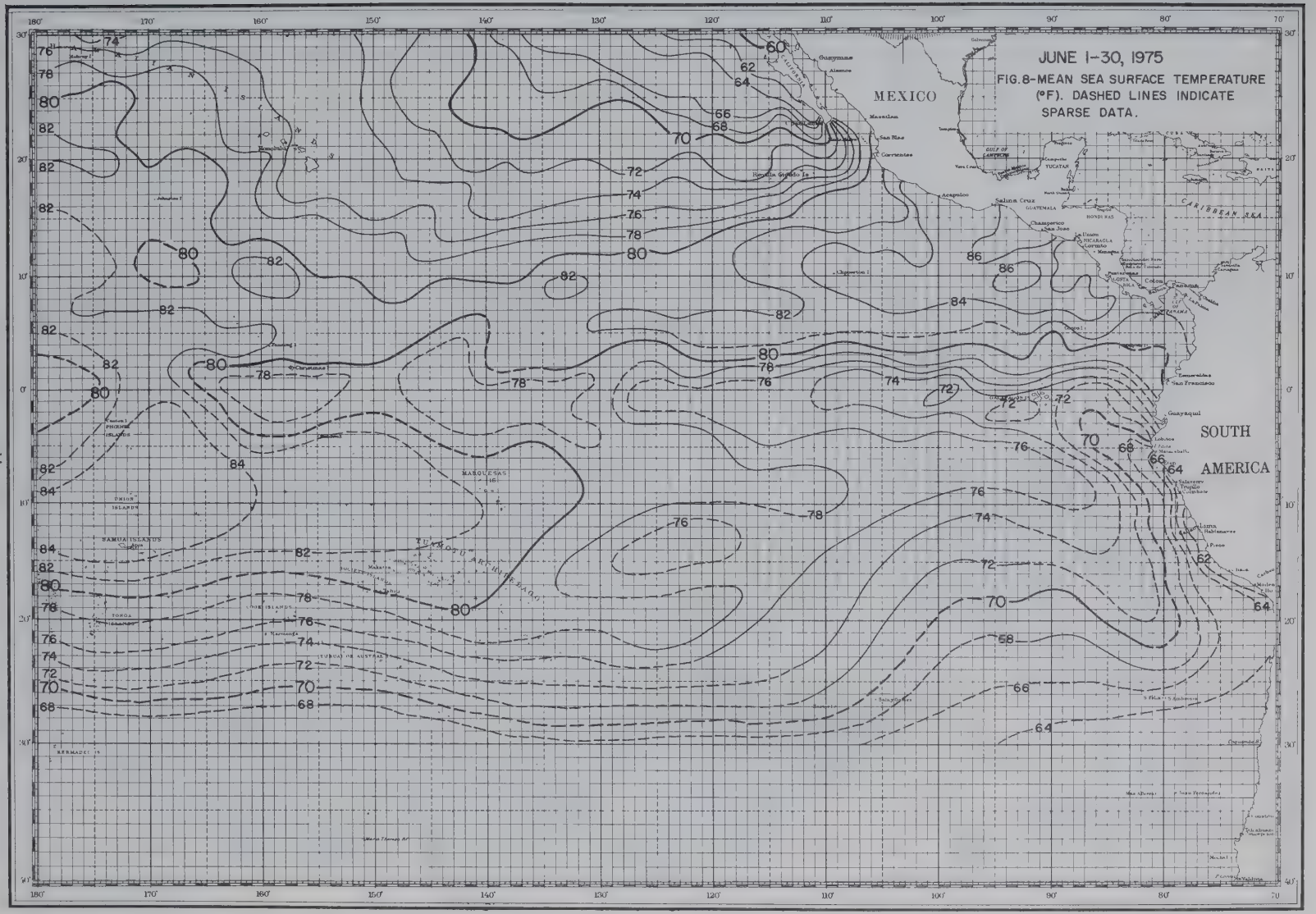
68
70
72
74
76
78
80
82
84
86
88


JUNE 1-30, 1975
FIG. 5 - DEVIATION OF SEA SURFACE TEMP. (°F) FROM 20 YEAR MEAN (1948-1967). HATCHED AREAS COLDER IN 1975.
2°F = 1.1°C
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
4
2
0
0
2
2
2
2
2
2
0
0
0
2
2
2
0
0


JUNE 1-30, 1975
FIG.6 - DEVIATION OF SEA SURFACE TEMP. (°F) FROM 20 YEAR MEAN (1948-1967). HATCHED AREAS COLDER IN 1975.
2° F = 1.1° C
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°


JUNE 1–30, 1975
FIG.7– DEVIATION OF SEA SURFACE TEMP. (°F) FROM JUNE 1974. HATCHED AREAS COLDER IN 1975. 2°F = 1.1°C
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
01


JUNE 1–30, 1975
FIG. 8–MEAN SEA SURFACE TEMPERATURE (°F). DASHED LINES INDICATE SPARSE DATA.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CALIFORNIA
GULF OF MEXICO
YUCATAN
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
CUBA
HAITI
JAMAICA
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Acapulco
Salina Cruz
Champerico
San Jose
Corinto
Managua
Chatham I.
Christmas
Galapagos Is.
Manzanillo
Panama
Colon
Esmeraldas
San Francisco
Guayaquil
Salaverry
Trujillo
Callao
Lima
Pisco
Arica
Iquique
Antofagasta
Coquimbo
Valparaiso
Juan Fernandez
Mocha I.
Easter I.
Pitcairn I.
Henderson I.
Ducie I.
Oeno I.
Rapa
Tubuai Is.
Rurutu
Raivavae
Rimatara
Rurutu
Tubuai
Austral Is.
Marquesas Is.
Tuamotu Archipelago
Society Is.
Tahiti
Moorea
Raiatea
Bora Bora
Cook Is.
Rarotonga
Samoa Is.
Tonga Is.
Fiji Is.
Suva
Kermadec Is.
Phoenix Is.
Union Is.
Tokelau Is.
Line Is.
Christmas I.
Clipperton I.
Revilla Gigedo Is.
Socorro I.
Roca Partida
Isla Isabella
Isla Clarion
Isla Socorro
Isla Guadalupe
Isla Cedros
Isla Natividad
Isla Cerros
Isla Magdalena
Isla Margarita
Isla Tres Marias
Isla Isabella
Isla Clarion
Isla Socorro
Isla Guadalupe
Isla Cedros
Isla Natividad
Isla Cerros
Isla Magdalena
Isla Margarita
Isla Tres Marias

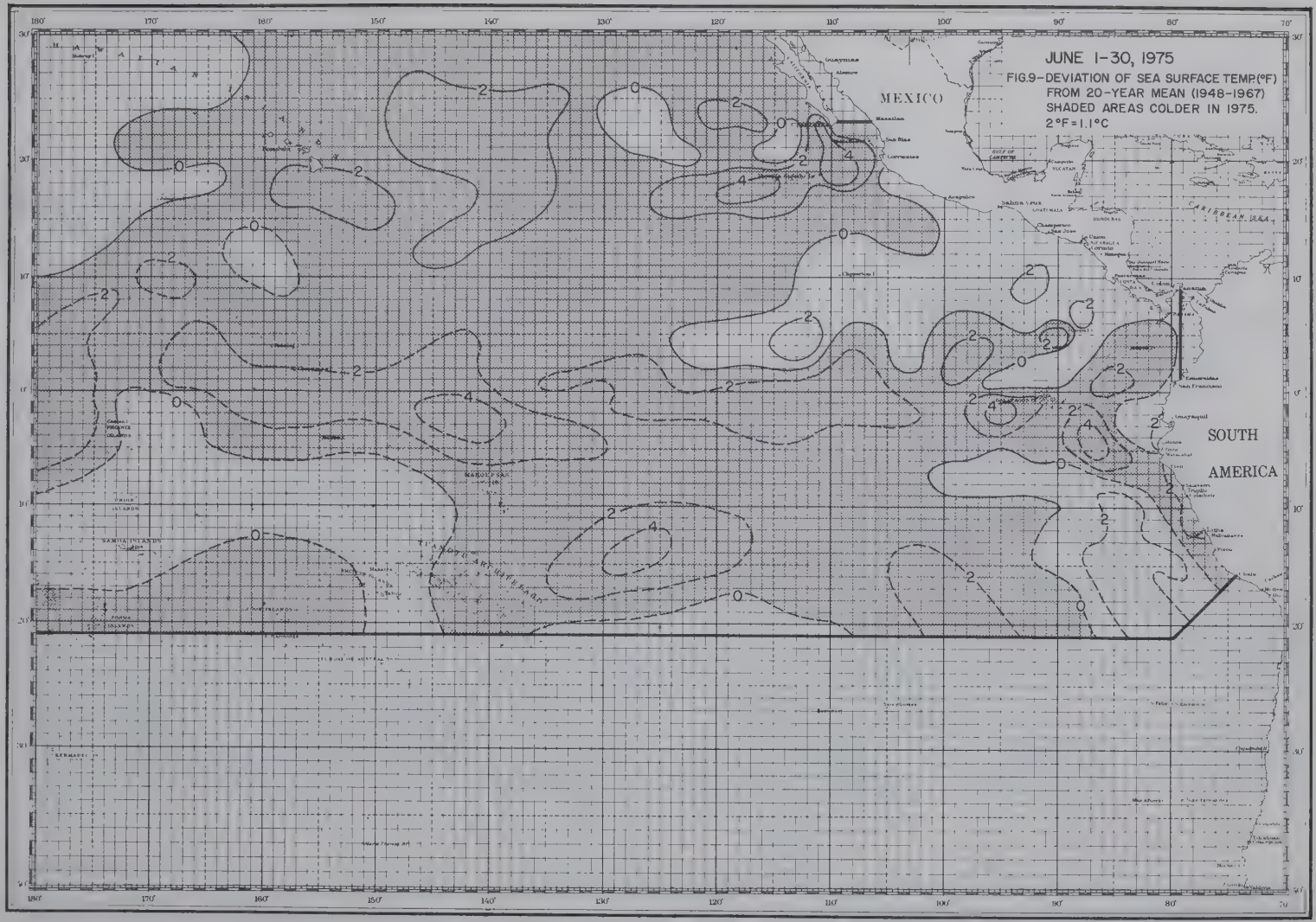
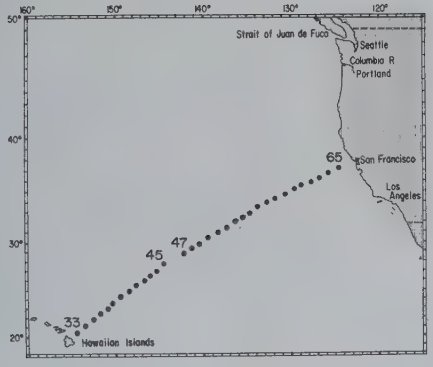
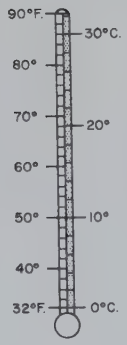

JUNE 1-30, 1975
FIG.9-DEVIATION OF SEA SURFACE TEMP(°F)
FROM 20-YEAR MEAN (1948-1967)
SHADED AREAS COLDER IN 1975.
2°F = 1.1°C
MEXICO
SOUTH
AMERICA
CARIBBEAN SEA
GULF OF MEXICO
HAWAIIAN ISLANDS
BERMUDA
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
10°
20°
30°
40°

FIGURE 10





HONOLULU – SAN FRANCISCO

JUNE 8-14, 1975

HAWAIIAN QUEEN

VOYAGE 158

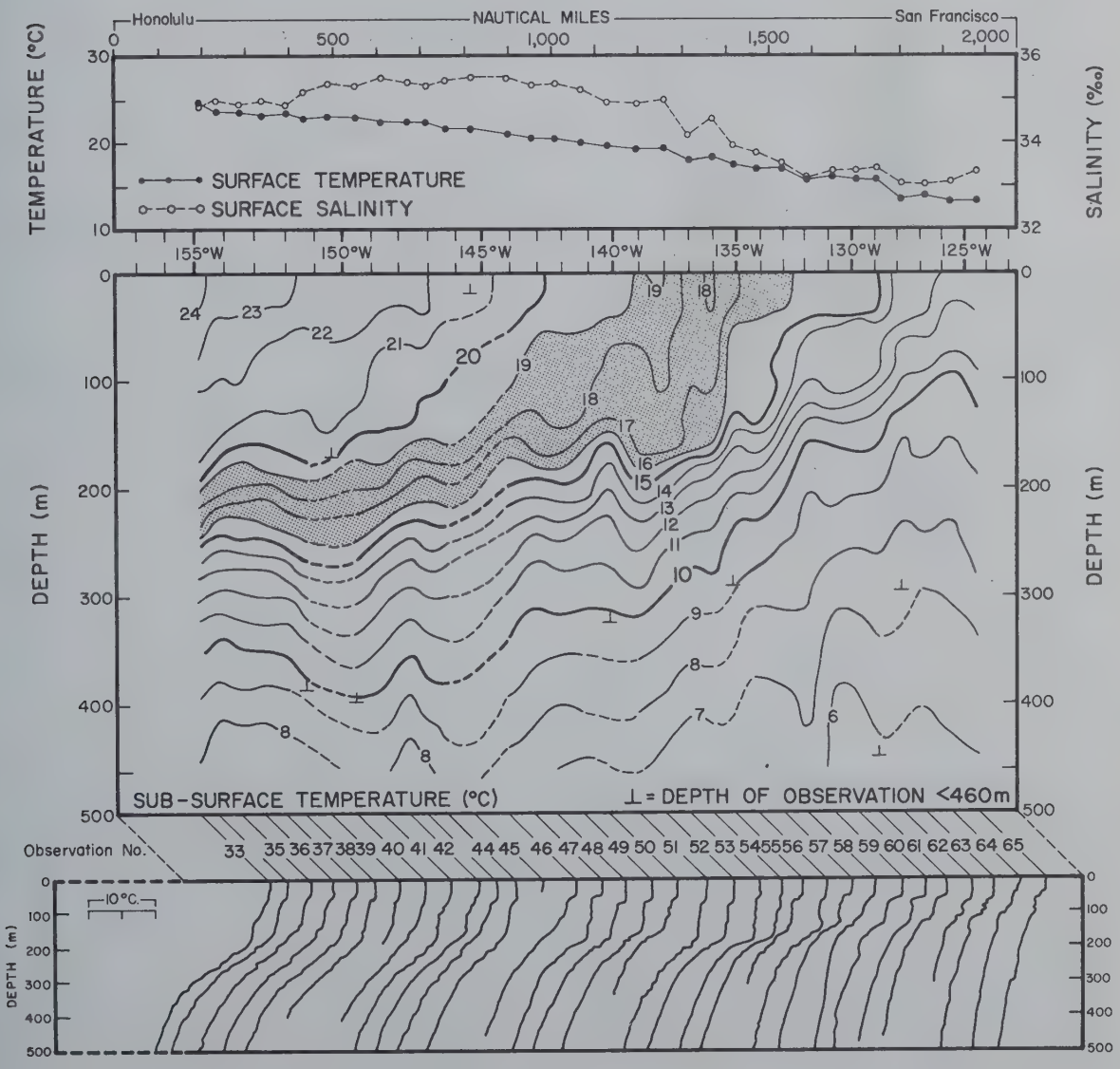
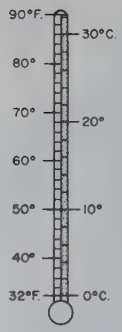


FIGURE I

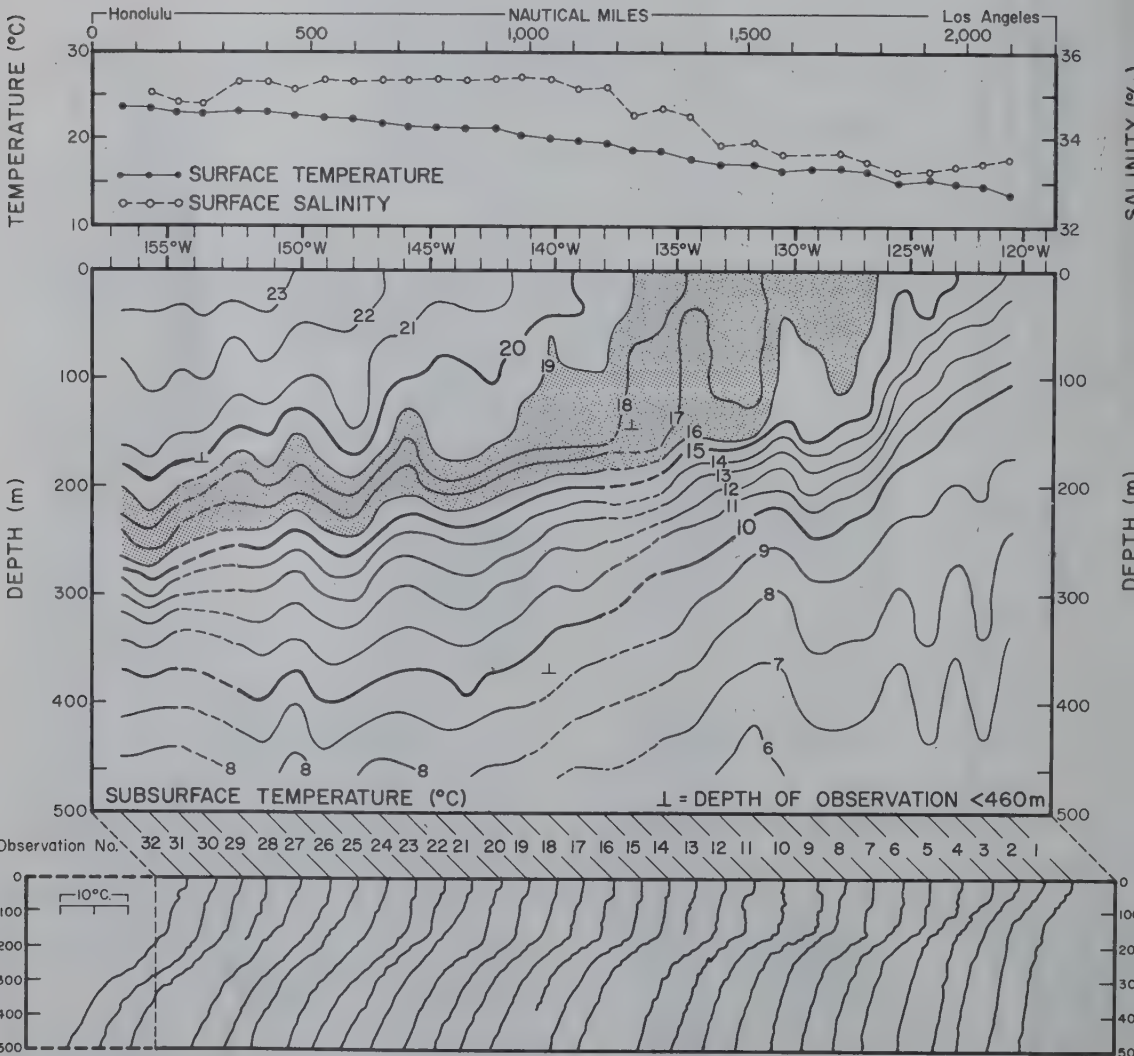


HONOLULU — LOS ANGELES

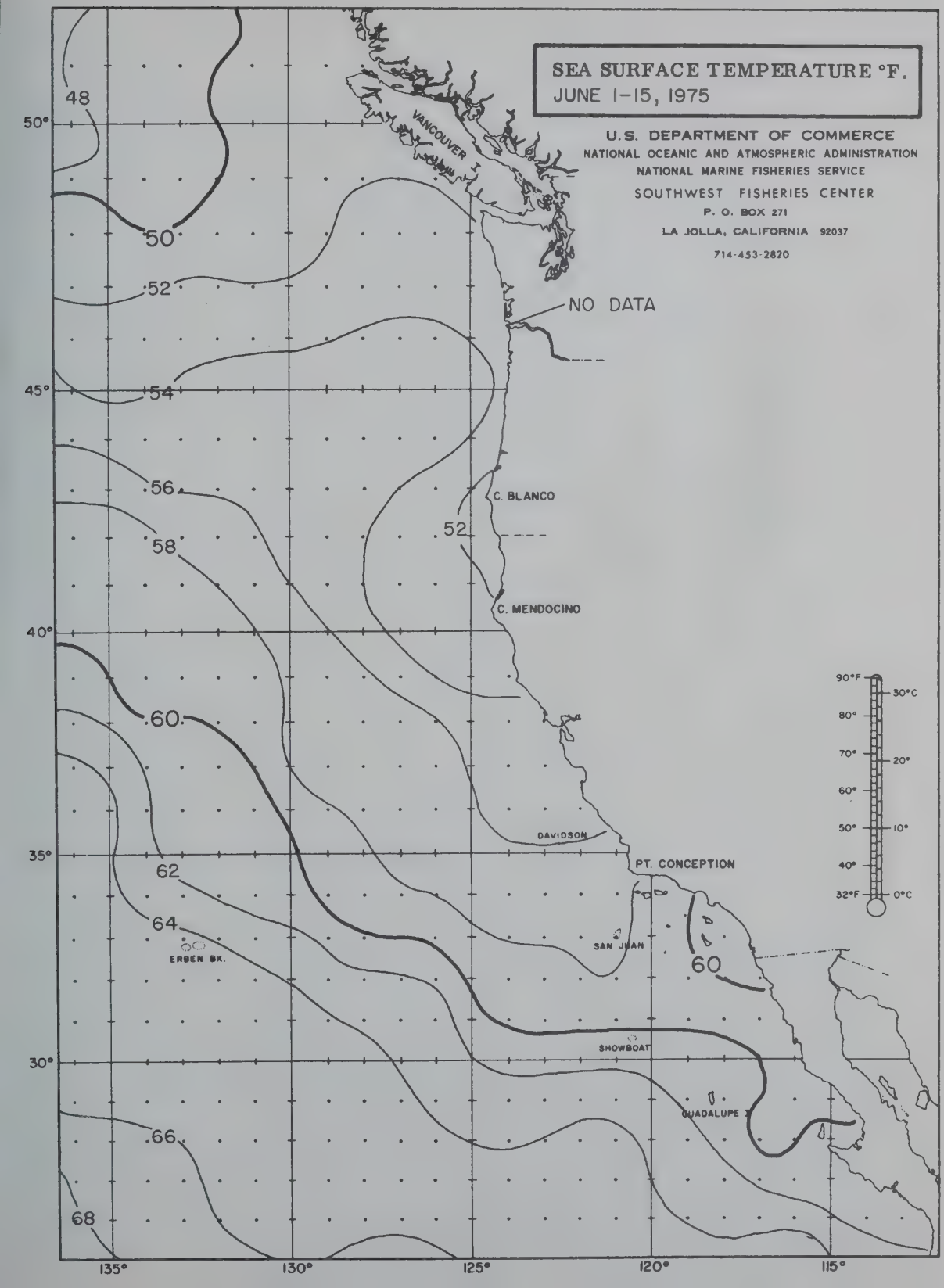
·MAY 31 — JUNE 6, 1975

·HAWAIIAN QUEEN

VOYAGE 158



FISHING INFORMATION – supplement



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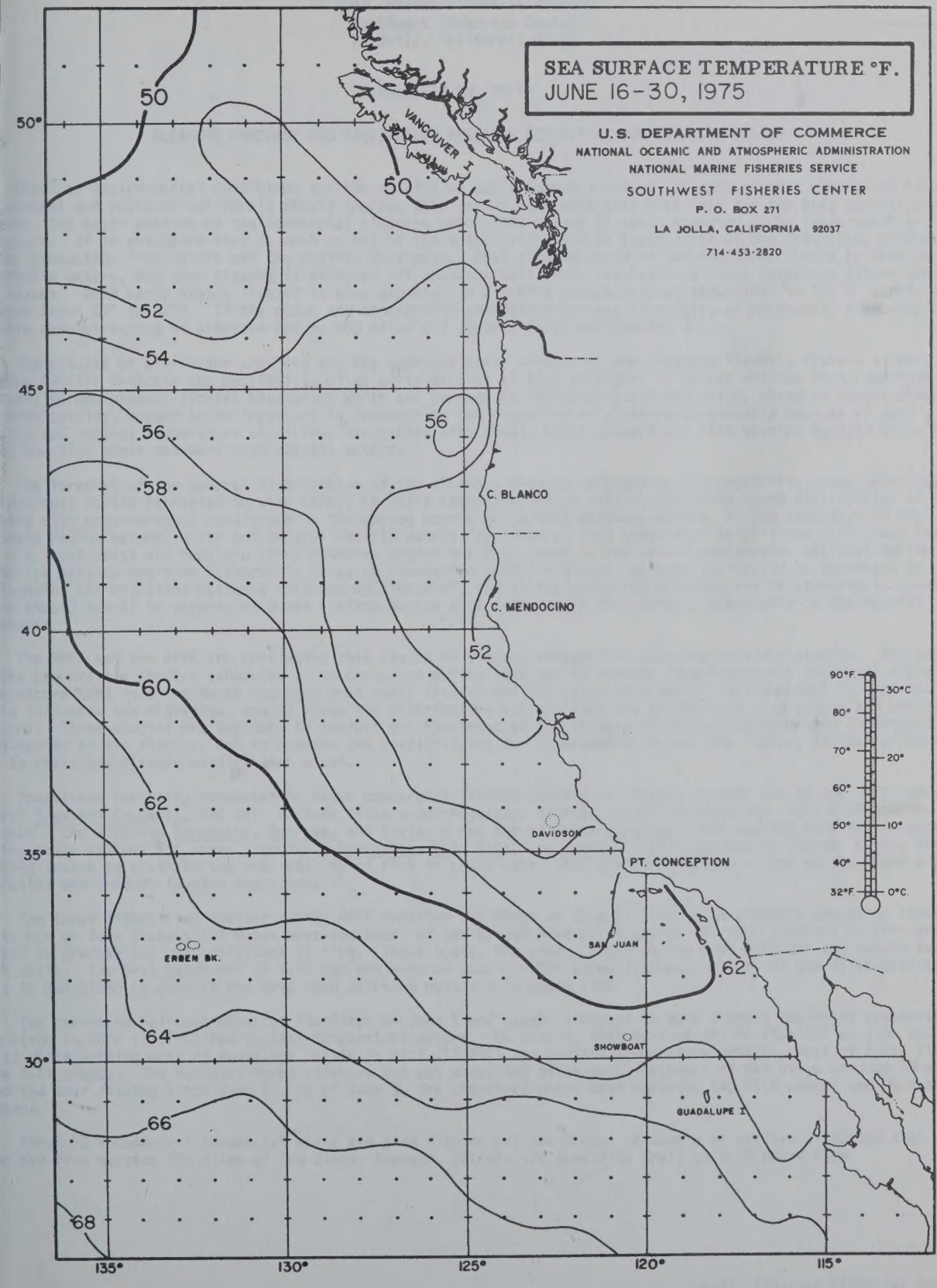


UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92038

BULLETIN No. 75-1

ALBACORE FORECAST AND COOPERATIVE RESEARCH ACTIVITIES FOR THE 1975 SEASON

Based on environmental conditions and the results of early season scouting, it appears that catches of albacore central and southern California should improve this season over what they have been for the past several years; ver, the major portion of the commercial albacore catch this season is again expected to be taken north of San cisco. It is estimated that as much as 60% of the total catch will be taken north of San Francisco, with most he production from waters off the Pacific Northwest. Best fishing south of San Francisco should be from central fornia waters, but good fishing is expected off southern California southward to about Guadalupe Island early in season. Good early season fishing is also expected in offshore waters between about 145° to 135°W during June een about 33° to 36°N. If the ocean and atmospheric conditions persist into July, as we expect, there may be ble concentrations of albacore 200 to 400 miles off central California during July.

The results of pre-season scouting and the apparent early wind-up of the Japanese livebait fishery in the ern Pacific indicate the possibility of an early arrival of fish this year in waters off the North American coast ver, strong oceanic frontal boundaries which are present in offshore waters and which, based on recent albacore arch studies, appear to be important in determining the migration of albacore (presumably because of good ing and optimal temperature conditions associated with them), could concentrate fish several hundred miles off- e and slow their movement into coastal waters.

The forecast of the general distribution of the albacore fishery is based on 1)a predictive index developed at National Marine Fisheries Service (NMFS) La Jolla Laboratory which relates the north-south distribution of the ery with oceanographic conditions in the spring months in certain offshore waters, 2) the structure of the dary region between north and central Pacific waters, as inferred from subsurface temperature data taken between U.S. west coast and Honolulu (this boundary region has been shown in the recent cooperative National Marine eries Service-American Fishermen's Research Foundation (AFRF) albacore research studies to be important in uencing the migration patterns followed by albacore), and 3) the projected distribution of atmospheric pressure h should result in warming of ocean surface waters at a faster rate than normal, especially in the Pacific hwest.

The NMFS and the AFRF are continuing this season to conduct cooperative albacore research studies. The purposes he cooperative studies scheduled to be conducted during 1975 are to further investigate the shoreward migration lbacore tuna into the North American west coast fishery and the associated marine environmental factors that d influence the migration, and to study the distribution and availability of albacore in offshore and nearshore ons. These studies are designed to improve our knowledge of the factors affecting the onset and subsequent lopment of the fishery, and to examine the possibilities for fishermen to extend the fishery farther offshore to start the fishery earlier than usual.

Operations are being conducted by seven commercial fishing vessels on charter to AFRF and by the NMFS research el Townsend Cromwell, and will include fishery-oceanography, tagging, and fish scouting. Four AFRF charter els - the jigboats Kamchatka, Sunrise, and Vivian M and the baitboat Sundance - are working in offshore waters ng early season, and three jigboats - Kamchatka, Lady Olga, and Sunrise - will operate on charter during the ing season to evaluate the availability of fish in areas other than where the main portions of the fleet are ating and conduct tagging operations.

The three jigboats on charter to the AFRF departed San Diego on June 1. The first albacore caught by these s was on June 2 about 125 miles west-southwest of San Diego; however, a search for more albacore in this area ed to produce any concentrations of fish. These boats, therefore, continued to move offshore and caught few daily. The best catch was 17 fish for one boat on June 8. The three jigboats were about 800 miles west-south- of San Diego on June 10 and have been catching mostly 5-10 pound fish.

The chartered baitboat departed San Diego on June 5 and caught albacore on June 6 about 180 miles southwest of Diego in 63°F (17.2°C) sea surface temperature waters. On June 7, this boat caught 50 fish (36 on jigs and 14 on) while working west of Guadalupe Island in 64°F (17.8°C) sea surface temperature waters. Most of these fish 9-11 pounds. The baitboat moved offshore and was about 530 miles west-southwest of San Diego on June 10 and rted poor fishing since June 7. As of June 9, the chartered boats have reported 140 fish caught and 25 fish ged.

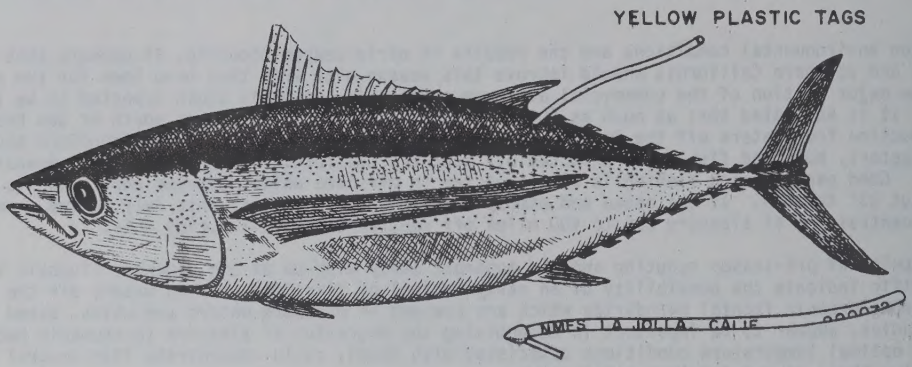
About 20 independent commercial boats are also fishing off San Diego. A couple of catches of 40-100 fish were rted from outside 300 miles of San Diego; however, catches are generally small on 9-10 pound fish.

e 10, 1975

Staff, Albacore Fisheries Program
R. Michael Laurs, Leader

$ REWARD $

FOR ALBACORE TUNA TAGS



THE
NATIONAL MARINE FISHERIES SERVICE WILL PAY $ 2.00 FOR EACH TAG RETURNED (SOME FISH HAVE MORE THAN ONE TAG).

THE
AMERICAN FISHERMEN'S RESEARCH FOUNDATION WILL AWARD CASH PRIZES FOR THE NUMBERS DRAWN IN AN ANNUAL LOTTERY.

WRITE:

- WHERE
- WHEN
- HOW

} *FISH WAS CAUGHT*

- LENGTH OF FISH (TIP OF LOWER JAW TO FORK OF TAIL)

FORWARD TO NMFS ADDRESS ON TAG OR TO AFRF
5055 N. HARBOR DRIVE, SAN DIEGO, CALIFORNIA

Daily broadcasts of albacore fishing information prepared by NOAA's National Marine Fisheries Service will be transmitted over marine radiobands starting July 9 and extending to October 31 or until the season ends. The broadcasts will be made on weekdays and Saturday mornings by the following radio stations:

WWD (La Jolla, California) on SSB carrier frequencies 4409.4, 8789.6, and 12424.5 kHz at 0615 and 1745 PDT on weekdays and 0715 on Saturdays.

KFX (Astoria Marine Operator) on 2598 kHz at 0630 and 1945 PDT.

KNPT (Newport, Oregon) on commercial AM 1310 kHz at 0615 and 1915 PDT.

NMC (Point Reyes Coast Guard) on AM compatible frequency 2670 and on SSB carrier frequency 8760.8 at 0645 and 1945 PDT.

KRED (Eureka, California) on commercial AM 1480 kHz 0600 and 2000 PDT.

(to determine the upper sideband assigned frequencies for tunable receivers add 1.4 kHz to WWD and NMC carrier frequencies)